

Vehicle Improved in Steering

Abstract

A vehicle is installed with an integral transaxle apparatus constructed so that a single housing contains left and right axles, a driving hydrostatic transmission (HST) having a variable displacement first hydraulic pump and a first hydraulic motor fluidly connected with each other, a steering HST having a variable displacement second hydraulic pump and a variable displacement second hydraulic motor fluidly connected with each other, and a differential unit differentially connecting the axles with each other so as to be driven regularly or reversely by the output of the driving HST and to differentially drive the axles while receiving the output of the steering HST, wherein the first hydraulic pump receives power of a prime mover and has a first movable swash plate, and the second hydraulic pump receives power of the prime mover independently of the first hydraulic pump and has a second movable swash plate. The vehicle is also provided with driving operating means for slanting operation of the first movable swash plate for switching the travelling direction between forward and backward and for changing the travelling speed, and steering operating means for slanting operation of the second movable swash plate so as to determine the leftward and rightward cornering angle. The second hydraulic motor has a third movable swash plate interlocking with the driving operating means so that the slanting direction of the third movable swash plate is changed oppositely with respect to its neutral position according to the travelling direction switching operation of the driving operating means, whereby the vehicle turns laterally in the same direction of leftward and rightward steering operation of the steering operating means whether the vehicle travels forward or backward.